
Four New Combinations in Eurasian *Doronicum* L. (Asteraceae, Senecioneae)

I. Álvarez Fernández

Real Jardín Botánico, Consejo Superior de Investigaciones Científicas, Plaza de Murillo 2,
E-28014 Madrid, Spain

ABSTRACT. The combinations *Doronicum carpetanum* subsp. *diazii* (C. Pérez Morales & A. Penas Merino) Álvarez Fernández, *Doronicum carpetanum* subsp. *kuepferi* (R. Chacón Aumente) Álvarez Fernández, *Doronicum kamaonense* (DC.) Álvarez Fernández, and *Doronicum macrophyllum* F. E. L. Fischer subsp. *sparsipilosum* (J. R. Edmondson) Álvarez Fernández are proposed. *Doronicum kamaonense* is lectotypified.

Key words: Asteraceae, *Doronicum*, Eurasia, Senecioneae.

As a result of a taxonomic revision of the genus *Doronicum* based on 4500 herbarium specimens from 47 herbaria (Álvarez Fernández, 1999; Álvarez Fernández & Nieto Feliner, 1999), a few nomenclatural adjustments are needed. A monograph of the genus is currently being prepared, comprising 26 species and 4 subspecies distributed from the Iberian Peninsula to the Yunnan Province in China. The following new combinations are proposed.

Doronicum carpetanum Boissier & Reuter ex Willkomm & Lange subsp. ***diazii*** (C. Pérez Morales & A. Penas Merino) Álvarez Fernández, comb. et stat. nov. Basionym: *Doronicum diazii* C. Pérez Morales & A. Penas Merino, *Lagascalia* 15: 155. 1990. TYPE: Spain. León: "Puerto Bermejo (Abelgas, León), 30TTN55, praderas silíceas," July 1974, C. Romero (holotype, LEB 4290 not seen).

Doronicum carpetanum Boissier & Reuter ex Willkomm & Lange subsp. ***kuepferi*** (R. Chacón Aumente) Álvarez Fernández, comb. et stat. nov. Basionym: *Doronicum kuepferi* R. Chacón Aumente, *Anales Jard. Bot. Madrid* 43: 269. 1987. TYPE: Spain. Cáceres: "Cáceres: Sierra de Majarreina, lugares rupestres cerca del Pico del Telégrafo, 2400 m," 7 Aug. 1946, *Rivas Goday s.n.* (holotype, MA 155587).

Doronicum carpetanum is endemic to the north-

ern half of the Iberian Peninsula. It is closely related to *D. grandiflorum* Lamarck, from which it differs mainly by its heterocarpic capitula and leaf shape. As a result of my study (Álvarez Fernández, 1999), I concluded that three endemic species described from the Iberian Peninsula (*D. diazii* Pérez Morales & Penas, *D. kuepferi* R. Chacón, and *D. pubescens* Pérez Morales, Penas, Llamas & Acedo) fall within the range of variation of *D. carpetanum*. However, those entities differ in plant size, ploidy level, and degree or distribution of indumentum, so that they can be distinguished in most cases. As such, I treat these taxa as subspecies of *D. carpetanum*. Since one of the required names, *D. carpetanum* subsp. *pubescens* (Pérez Morales, Penas, Llamas & Acedo) Aizpuru, was recently validated (Aizpuru et al., 1998), only the remaining two combinations are proposed here.

Doronicum kamaonense (DC.) Álvarez Fernández, comb. nov. Basionym: *Fullartonia kamaonensis* DC., *Prodr.* 5: 281. 1836. TYPE: "Comp. angl. des Indes," 1830 [sine collector] (lectotype, selected here, G-DC not seen, G-DC microfiche).

Doronicum roylei DC., *Prod.* 6: 321. Syn. nov. 1838. TYPE: "Cachemire," [acc.] 1833, *Royle* 232 (lectotype, designated by Álvarez Fernández & Nieto Feliner (1999), G-DC not seen, G-DC microfiche).

The monotypic genus *Fullartonia* DC. (*F. kamaonensis* DC., 1836) has been considered as a synonym of *Doronicum roylei* DC. (1838) by several authors (e.g., Clarke, 1876; Hooker, 1881; Cavillier, 1911), and it also appears as such in *Index Kewensis* (Royal Botanic Gardens, Kew, 1997). If this criterion were right, the epithet *kamaonensis* would have priority, and it should be combined under *Doronicum*.

In the protologue of *F. kamaonensis*, De Candolle included the origin of the collection, "in Kamaon prov. Indicâ ad radices Himalayae," followed by the annotation: "(v.s. sine num. et nom. comm. ab ill. Aulâ merc. Ind. or.)" This means that this sheet did not contain any written information, and that

the origin of the plant was only obtained by oral communication from a merchant named Aulâ. In G-DC there is a single sheet of *F. kamaonensis* that contains a fragment of one specimen and three labels. One of these labels contains only the name *Fullartonia kamaonensis* DC., the second contains the name *F. kamaonensis* and also the reference to the protologue (De Candolle, Prod. 5, p. 281, n.1), and the remaining handwritten label says: "Comp. angl. des Indes 1830." Although the match between this label and the protologue is not straightforward, this is the only acceptable material for lectotypification. The handwriting seems to belong to De Candolle (Burdet, 1979), since it was written in French, and it refers to the place of origin as "des Indes." The last letter of the first word is unclear, but it could mean "Compagnie," making sense of the whole sentence: "English Company of India 1830."

Some characters suggesting that the type specimen of *F. kamaonensis* corresponds to *D. roylei* were observed by microfiche (i.e., habit, and leaf shape and venation). But to decide upon the identity of this sheet, the collaboration of A. Charpin was decisive. He checked the occurrence of the exclusive character of *D. roylei* (cup-like glandular hairs near the capitula) in this specimen, confirming that *F. kamaonensis* and *D. roylei* are the same entity. Because the former has priority, the combination *D. kamaonense* (DC.) Álvarez Fernández is needed, and *D. roylei* DC. remains as a heterotypic synonym.

Doronicum macrophyllum F. E. L. Fischer subsp. ***sparsipilosum*** (J. R. Edmondson) Álvarez Fernández, comb. nov. Basionym: *Doronicum bithynicum* subsp. *sparsipilosum* J. R. Edmondson, Notes Roy. Bot. Gard. Edinburgh 32: 258. 1973. TYPE: Turkey. Kastamonu: "Ilgaz Daglari, 35 km S of Kastamonu, roadside on N side of pass top, mainly under Abies, 1730 m," 27 July 1971, *J. R. Edmondson 463* (holotype, E; isotypes, G, ISTF not seen, K, W).

The genus *Doronicum* reaches its main taxonomic complexity in southwest Asia. Taxa from this area are polymorphic and their diagnostic characters, mainly based on the kind of indumentum, are few. From this area, Edmondson (1973) described *D. bithynicum* J. R. Edmondson together with a new subspecies, subsp. *sparsipilosum* J. R. Edmondson. Only two diagnostic characters were indicated by the author that discriminate *D. bithynicum* from *D. reticulatum* Boissier: basal leaves without white veins beneath, and the number of capitula. The

white color of the veins depends on the density of indumentum, which is very variable. In my taxonomic treatment I conclude that *D. bithynicum* should be included within *D. reticulatum*. The latter species, *D. reticulatum*, possesses an exclusive character (ovate-lanceolate phyllaries with longitudinal veins darker than the blade) and is one of the best characterized endemic species in the Anatolian Peninsula. In contrast, Edmondson's subspecies *sparsipilosum* is quite different from *D. reticulatum* because of the lanceolate phyllaries, the lack of dark veins, and the occurrence of eglandular multiseriate hairs. In this subspecies, the shape of phyllaries and the kind of indumentum resemble *D. macrophyllum* F. E. L. Fischer, which differs slightly in its habit, size of basal leaves, and density of the indumentum. In most cases it is possible to distinguish them, and I consider it more appropriate to subordinate this subspecies to *D. macrophyllum*.

Acknowledgments. I am grateful to André Charpin and Fernand Jacquemoud for help with the type material of G-DC, to Félix Muñoz-Garmendia and Alberto Herrero for the information provided, and to Gonzalo Nieto Feliner for constructive comments. This work has been partially supported by grant DGES PB96-0849 of the Spanish Dirección General de Enseñanza Superior e Investigación Científica.

Literature Cited

- Aizpuru, I., C. Aseginolaza, F. Garin & J. Vivant. 1998. Contribuciones al conocimiento de la Flora del País Vasco, III. *Munibe* 50: 7-19.
- Álvarez Fernández, I. 1999. Sistemática del Género *Doronicum* L. (Asteraceae, Senecioneae) y Análisis Filogenético Basado en Fuentes Morfológicas y Moleculares. Unpublished Ph.D. Dissertation, Departamento de Biología Vegetal I, Facultad de Ciencias Biológicas, Universidad Complutense de Madrid, Madrid.
- & G. Nieto Feliner. 1999. Lectotypification of 16 species names in *Doronicum* (Asteraceae, Senecioneae). *Taxon* 48: 801-806.
- Burdet, H. M. 1979. *Auxilium ad botanicorum graphicem*. Genève.
- Candolle, A. P. De. 1836. *Prodromus systematis naturalis regni vegetabilis*, 5. Paris.
- . 1838. *Prodromus systematis naturalis regni vegetabilis*, 6. Paris.
- Cavillier, F. 1911. Nouvelles études sur le genre *Doronicum*. *Annuaire Conserv. Jard. Bot. Genève* 13-14: 195-368.
- Clarke, C. B. 1876. *Compositae Indicae*. London.
- Edmondson, J. R. 1973. Notes on *Doronicum* L. in SW Asia. *Notes Roy. Bot. Gard. Edinburgh* 32: 255-258.
- Hooker, J. D. 1881. *The Flora of British India*. London.
- Royal Botanic Gardens, Kew. 1997. *Index Kewensis 2.0 on CD-Rom*. Oxford Univ. Press, Oxford.